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ABSTRACT

Prepared for a White House Conference on Children (December 1970), this report describes a program in which first- through third-graders in three schools in Dayton, Ohio, participate in a model of a Follow Through program sponsored by Siegfried Engelmann and Wesley Becker of the University of Oregon at Eugene. All teachers chose to participate, many moving up a grade each year with their students. The program's approach is based on the fact that disadvantaged children are considerably behind middle-class children in learning skills when they enter school and, if these children begin at normal rates, they will always remain behind average children in school. The Engelmann Bereiter approach uses programed materials so that children will not encounter tasks that are too difficult for performance. The materials require many verbal responses for each child. Teachers systematically reinforce desired behaviors, using praise, food, or prizes as reinforcers. This program is used in the first three grades at three schools in West Dayton in impoverished areas. Most of the children have attended kindergarten and have been in Head Start programs. About 98 percent are black. For other booklets in the series, see UD 011 120-121, and 011 124-125. (Author/JM)

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Model Programs

Childhood Education

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Behavior Principles Structural Model of a Follow Through Program

Dayton, Ohio

A Follow Through program designed to help disadvantaged children learn basic skills quickly by using programed materials and continuing teacher reinforcement

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Elliot L. Richardson, *Secretary*
Office of Education
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OFFICE OF ECONOMIC OPPORTUNITY
Donald Rumsfeld, *Director*

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FOREWORD

This booklet is one of 34 in a series of promising programs on childhood education prepared for the White House Conference on Children, December 1970. The series was written under contract by the American Institutes for Research for the Office of Economic Opportunity, and the Office of Child Development and the Office of Education, U.S. Department of Health, Education, and Welfare.

Within the broad area of childhood education the series includes descriptions of programs on reading and language development, the disadvantaged, preschool education, and special education. In describing a program, each booklet provides details about the purpose; the children reached; specific materials, facilities, and staff involved; and other special features such as community services, parental involvement, and finances. Sources of further information on the programs are also provided.

First- through third-graders in three schools in Dayton, Ohio, participate in a model of a Follow Through program sponsored by Siegfried Engelmann and Wesley Becker of the University of Oregon at Eugene. Dayton is one of 18 sites in the country using this program. Based on procedures originally developed by Mr. Engelmann and Karl Bereiter, this model has been in operation in Dayton since the 1968-69 school year. For the first year, only first-graders were in the program; a second-grade program began the next year, and the third-grade program, in 1970-71. All teachers in the Dayton program chose to participate, many moving up a grade each year with their students.

The program's approach is based on the fact that disadvantaged children are considerably behind middle-class children in learning skills when they enter school and, if these children learn at normal rates, they will always remain behind average children in school. The Engelmann-Becker approach uses programed materials so that children will not encounter tasks that are too difficult for them and teachers will receive constant feedback on children's performance. The materials require many verbal responses from each child. Teachers systematically reinforce desired behaviors, using praise, food, or prizes as reinforcers.

THE CHILDREN AND THEIR COMMUNITY

This program is used in the first three grades at three schools in West Dayton--Grace A. Greene School, which includes kindergarten through eighth grade; Louise Troy School, which includes kindergarten through third grade; and Edison School, which includes kindergarten through fifth grade. All these schools are in impoverished areas, and most of the children attending them are from poor families and have attended kindergarten and been in Head Start programs. About 98 percent are black, and about 75 percent of their families earn less then $6,500 a year. Many of the parents do not have high school diplomas, and over half the families receive welfare payments.

THE CLASSROOM

Each classroom is staffed by three adults, either two certified teachers and one aide or one teacher and two aides, who teach about 22 children. Partitions along one wall make three carrels, each with a chalkboard, where teachers and aides drill the children. Four ability groups, designated by color or number, are formed, each group made up of five to seven children. For 2 hours in the morning half-hour lessons are given in arithmetic, reading, and language, plus a half-hour on self-selected activities. Each teacher teaches one subject, and the groups of children move from area to area in the classroom for their scheduled activities.

Those working at self-selected activities sit at tables or desks, and in the first- and second-grade classrooms, each child's place at the table is identified by a large name plate made from construction paper. Shelves in the classroom hold the toys and materials used in self-selected activities. All classrooms are carpeted.

INSTRUCTIONAL TECHNIQUES

The program uses the Distar reading, arithmetic, and language programs for core academic instruction in the morning and the IMA (Instructional Media of America) art and music programs and the Engelmann science program for afternoon activities. An Engelmann social science program is being developed. The Distar programs used in the third-grade classrooms are in the experimental stage and have not yet been printed.

The Distar reading program, designed especially for disadvantaged children, teaches children to read by learning letter sounds rather than letter names. When a child can "spell" a word phonetically, he can read it. The arithmetic program relates all basic arithmetic skills to counting operations, and the language program focuses on the language of instruction. All Distar materials are programed, each task depending on the completion of the

previous task. The tasks, which take about 5 minutes to complete, are designed to be completed in drills with small groups. The teacher begins the task by telling the children what they are going to do--count to 10, solve an equation, identify letter sounds, describe or classify objects, read a story, and so forth. The children then repeat the task to the teacher in unison or answer her questions about the task until she is sure each child understands it. The more advanced children read instructions aloud from individual worksheets. The teacher moves from group responses to individual responses; wrong responses are corrected immediately. For example:

Teacher: Now you are going to count by one hundreds to one thousand. Are you going to count by tens?
Students: No.
Teacher: Are you going to count by fives?
Students: No.
Teacher: Well, what are you going to count by?
Students: One hundreds. (One students says "ones.")
Teacher: No! What are you going to count by?
Students: One hundreds.
Teacher: One hundreds. Robert, what are you going to count by?

Student: One hundreds.
Teacher: Good. What are you going to count *to?*
Students: One thousand.
Teacher: Yes. You are going to count by one hundreds to one thousand. Say it!
Students: We are going to count by one hundreds to one thousand.
Teacher: Very good! Now, get ready, count!

When the students complete a task well in the lower grades, they are immediately handed raisins or candy as reinforcement. Students are encouraged to speak clearly and loudly. Teachers use gestures that tell the children when a group response is being requested and when the teacher will continue talking. As the children near the end of a task, they often become excited and shout their answers, and this behavior is encouraged. Teachers often introduce a task by saying, "I bet I can fool you with this one. This is a hard problem." When children become familiar with a task, teachers occasionally give wrong answers to problems to allow the children to catch them in their mistakes. At the end of a half-hour session, the teacher may shake each child's hand and congratulate him for working hard and doing a good job, and children are delighted by this praise. Children in the third grade

accumulate points instead of receiving food, and are given a prize of a toy or game when they accumulate a certain number of points.

As a reward for working hard, children are given "take-homes" that provide practice in certain skills. These take-homes are printed sheets with pictures on the front and questions about them on the back. Children in the third grade may receive reward points for correctly answering questions on take-homes.

During their periods for self-selected activities, children may work puzzles; play with educational toys, games, or housekeeping items; dress up; paint; work with a tape recorder, a language master, or a record player; or read or write.

Children are placed into ability groups by a pretest when they enter the program. Those in the first grade stay in the same group for all subjects, but other children may join one group for arithmetic instruction and another for reading. Those who learn more slowly than the slowest group receive special instruction. Children in the first and second grades are tested in each of the three core subjects every 6 weeks, the tests being staggered so that each child is tested once every 2 weeks. Test data are charted and sent to the University of Oregon, the curriculum

supervisor, and the teacher. Test results show whether groups are moving at the appropriate pace, whether any tasks need to be repeated, and whether any children need to be moved to another group. This information is available to the teacher 1 week after the test is administered. Tests have not yet been developed for the third-grade program.

In a special entry room for children who have transferred teachers instruct the newcomers in the signals and response methods used in the program so that they will be able to function in the classroom. They then place the children in the appropriate ability group.

Each teacher is required to give her children 180 lessons a year. If the teacher misses a day of school, she has to make up the missed lesson period with all four ability groups, either by working on core academic subjects in the afternoon or by pacing the children faster in the morning. Substitute teachers are not used since they would not be trained in this approach.

All children receive a free breakfast and a hot lunch. Since this is a required part of the program, children at Grace A. Greene School, where there is currently no cafeteria, are bused at noon to Edison School, two blocks away, for a hot lunch.

STAFF

The program in all three schools in Dayton is taught by 51 certified teachers and 50 teacher aides. About 80 percent of the teaching staff is black, and all are women. The aides are required to take a certain number of courses at a local college each year. The programs in the three schools share a nurse, two social workers, three social work aides, a health aide, and a data collector who charts the data from the program tests. Fourteen paraprofessionals work part time to administer these tests. Three persons videotape teachers as they work with the children; these tapes are sent to the University of Oregon for critique. Each school has a parent-worker responsible for contacts with children's parents. The project has a director and four curriculum supervisors, three from the local teaching staff and one from the University of Oregon.

Curriculum supervisors are trained by the University of Oregon team, who provide preservice and inservice training to teachers

and aides. Teachers and aides have 2 weeks of preservice training to acquaint them with the structure of the program, and each teacher receives 1 hour of inservice training every week. Each curriculum supervisor observes 10 teachers every day, grading them on a teacher rating form. The form has spaces to note such factors as whether or not the teacher paces the lessons well, and uses the correct body signals and methods of correction. Copies of these forms are sent to the University of Oregon, and ratings are discussed with the teacher. The curriculum supervisor has a record of each group's progress and ensures that teachers make up any absences. She also checks test data to see that students are appropriately placed and groups are progressing satisfactorily.

PARENT INVOLVEMENT

Most of the aides are mothers of children in the program who were recruited by the parent-worker, who also calls a parent meeting every 2 weeks, to familiarize them with the program. Parents are important to the program to reinforce the child's feeling of confidence in his abilities and pride in his work. They should also be familiar with the special features of the program; a first-grader, for example, will not be learning the alphabet as they know it, but will be learning letter sounds.

SUCCESS OF THE PROGRAM

The Follow Through program is assigned three testers from the local board of education. In September 1968, a battery of tests, including a readiness test, was given to children who would be in the first grade at Edison School (a Follow Through school) and a control group who would attend another school. Data showed that the control group was significantly superior to the Follow Through group in school readiness. In May 1969, a test battery, including an achievement test, was given to the same groups. Data from this battery showed that the Follow Through group had the same reading skills as the control group and had surpassed them in word discrimination and arithmetic concepts and skills. The psychologists who administered the tests also commented that the children in the Follow Through program showed "a poise, a self-confidence, and an expectation of success not usually found in children completing their first year of school." The same groups of children will be tested again in May 1971.

COSTS

The Follow Through program in Dayton will cost about three-quarters of a million dollars in the 1970-71 school year, or a cost of $750 per child per year. This cost is in addition to the $658 normally provided to every child in the school district. About 65 percent of the program is funded by the Office of

Economic Opportunity; funds available under Title I of the Elementary and Secondary Education Act provide 10 percent; the remainder is provided locally.

For more information about the program or to arrange a visit to one of the three Follow Through schools contact:

FOR FURTHER INFORMATION

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MODEL PROGRAMS--Childhood Education

This is one in a series of 34 descriptive booklets on childhood education programs prepared for the White House Conference on Children, December 1970. Following is a list of the programs and their locations:

The Day Nursery Assn. of Cleveland, Ohio
Neighborhood House Child Care Services, Seattle, Wash.
Behavior Analysis Model of a Follow Through Program, Oraibi, Ariz.
Cross-Cultural Family Center, San Francisco, Calif.
NRO Migrant Child Development Center, Pasco, Wash.
Bilingual Early Childhood Program, San Antonio, Tex.
Santa Monica Children's Centers, Calif.
Exemplary Center for Reading Instruction, Salt Lake City, Utah
Dubnoff School for Educational Therapy, North Hollywood, Calif.
Demonstration Nursery Center for Infants and Toddlers, Greensboro, N.C.
Responsive Environment Model of a Follow Through Program, Goldsboro, N.C.
Center for Early Development and Education, Little Rock, Ark.
DOVACK, Monticello, Fla.
Perceptual Development Center Program, Natchez, Miss.
Appalachia Preschool Education Program, Charleston, W. Va.
Foster Grandparent Program, Nashville, Tenn.
Hartford Early Childhood Program, Conn.
Philadelphia Teacher Center, Pa.
Cognitively Oriented Curriculum, Ypsilanti, Mich.
Mothers' Training Program, Urbana, Ill.
The Micro-Social Preschool Learning System, Vineland, N.J.
Project PLAN, Parkersburg, W. Va.
Interdependent Learner Model of a Follow Through Program, New York, N.Y.
San Jose Police Youth Protection Unit, Calif.
Model Observation Kindergarten, Amherst, Mass.
Boston Public Schools Learning Laboratories, Mass.
Martin Luther King Family Center, Chicago, Ill.
Behavior Principles Structural Model of a Follow Through Program, Dayton, Ohio
University of Hawaii Preschool Language Curriculum, Honolulu, Hawaii
Springfield Avenue Community School, Newark, N.J.
Corrective Reading Program, Wichita, Kans.
New Schools Exchange, Santa Barbara, Calif.
Tacoma Public Schools Early Childhood Program, Wash.
Community Cooperative Nursery School, Menlo Park, Calif.